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DE 002507876 A
WPI Abstract Accession No. 86-083480[13] &
ES8600434A WPI Abstract Accession No.
93-365835[46] & JP050272048A WPI Abstract
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Abstract Accession No. 91-358605[49] &
JP030241074A WPI Abstract Accession No.
77-17581Y[10] & JP520012398A

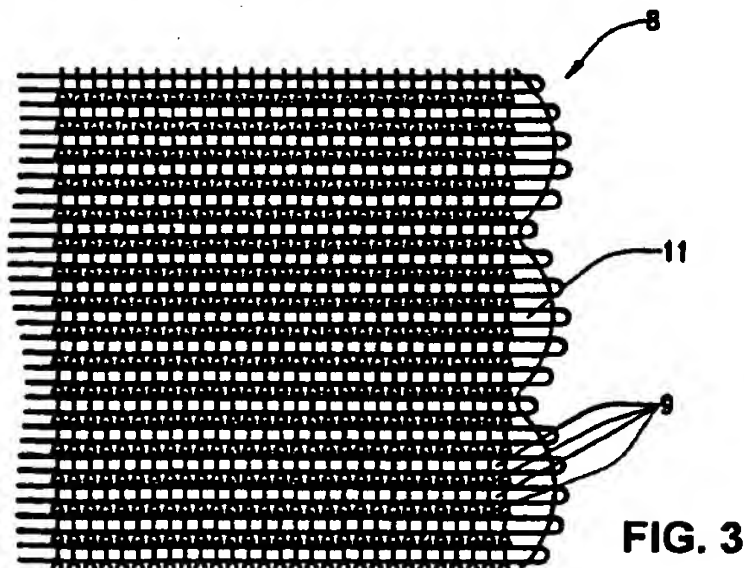
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(54) Abstract Title

Knitted fabric for use in arts and crafts such as embroidery

(57) A warp-knitted fabric for manufacturing arts and crafts and/or for embroidering thereon has a symmetric configuration of up to 6 squares ("counts" per cm) both lengthwise and across, and it is treated with a synthetic or natural size. The knitted fabric takes in a great amount of sizing, thus displaying higher hardness and rigidity. This structure of the knitted fabric with sizing allows one to use any kind of needlework to embroider on it when making handicrafts. The new fabric is made 4 to 52 cm wide, thus allowing for inexpensive storage of the fabric in a reduced space, which is required for the storage of fabrics in a variety of colors. The new fabric may also be provided with festoons 11.



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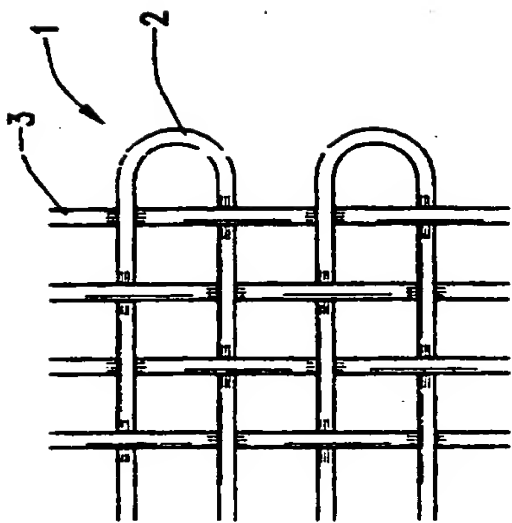


FIG. 1

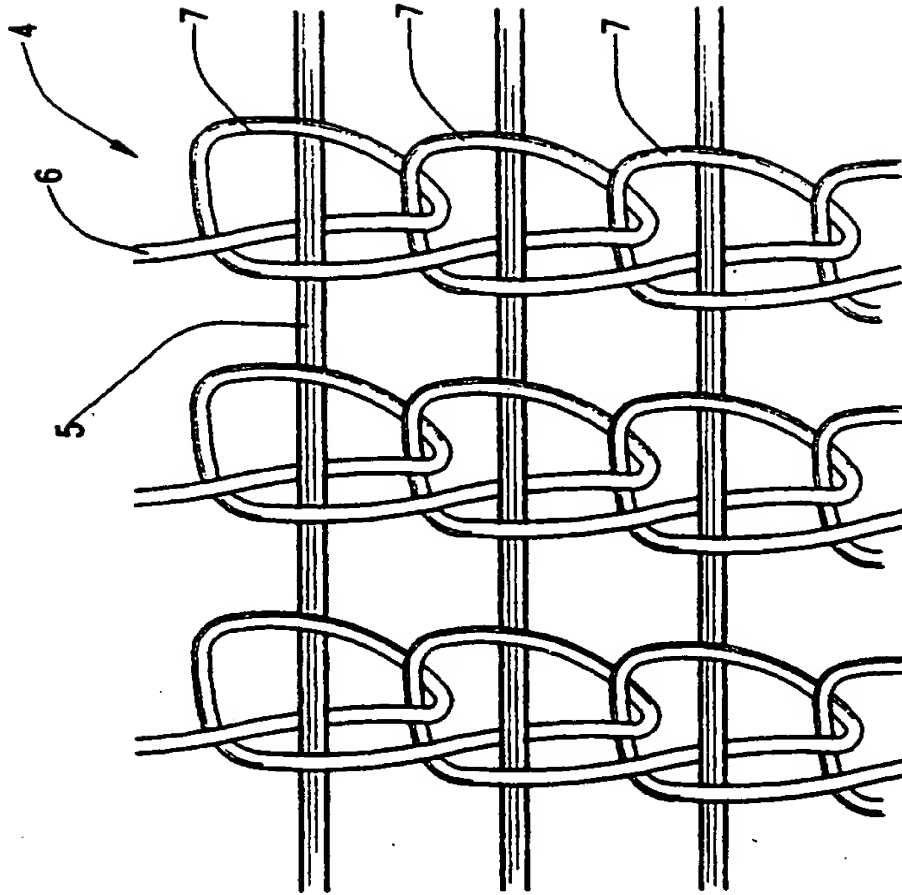


FIG. 2

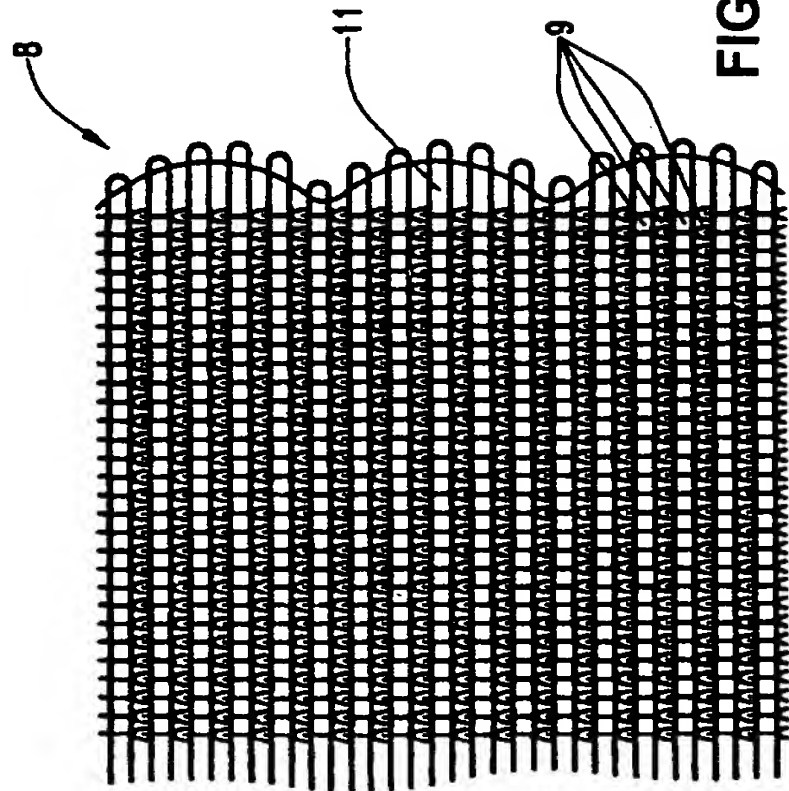


FIG. 3

Knitted fabrics absorb the chemical sizing better than openwork fabrics, giving the Knitted fabric with sizing a specific gravity which is about 10 % greater than that of openwork fabrics. This better absorption calls for a higher price per square meter of the knitted fabric with sizing, compared to the openwork fabric with sizing.

Due to the higher sizing absorption, the new knitted fabric is also harder and stiffer than openwork fabrics with sizing. As an end result, a fabric is achieved with a higher quality for manufacturing arts and crafts and/or for embroidering thereon than all the other fabrics known in the art, for the present fabric is thicker, it can be tighter, it is symmetrical and suitable to be embroidered with any type of needlepoint, especially the one known as cross-stitching, thereby achieving a base for handicrafts with a framework that is suitable to provide handicrafts that are more aesthetic than the ones produced based on the prior art fabrics.

In the preferred embodiment, a knitted fabric with sizing is provided which can be as low as between 4 and 52 cm, preferably 31 cm wide. A machine has been specifically designed to apply sizing to knitted fabrics that are between 4 and 52 cm wide. The advantage for this lesser width is the decrease in price per linear meter, compared to an openwork fabric of a 1,5 m width, even though the price per square meter of the present knitted fabric with sizing is higher than that of the openwork fabrics with sizing. The lesser width allows store owners to stock different colors without great investments and without the need for extended storage space to store the fabrics.

Since there were no standard machines for applying sizing to knitted fabrics, a machine has been specially developed to achieve both the sizing of the knitted fabric of this invention and the production of the fabric in the aforementioned width. Despite the fact that this machine is also novel, the same is

not a part of the present invention, although it is a requirement to obtain the new framework for the subject knitted fabric with sizing.

The above aims may be achieved by means of the device embodying the present invention, which will be shown in the following figures, wherein

Figure 1 shows the basis for an openwork fabric as used in the prior art;

Figure 2 shows the basis for a knitted fabric as used in embodiments of the present invention; and

Figure 3 shows a top plane view of a knitted fabric with sizing embodying the present invention.

In Fig. 1, there is shown the basis for an openwork fabric 1 of the kind used in the prior art, which has, as a distinctive feature, that the weft 2 and the warp 3 are interwoven, but are not attached by any type of knot, binding or the like.

In Fig. 2, there is shown the basis for a knitted fabric 4, as used in embodiments of the present invention. The combination of weft 5 and warp 6, wherein each pass of the weft is captured by means of a knot 7, is made by crochet needles or the like.

The differences between fabrics 1 and 4 (Figs. 1 and 2) clearly account for the difference in price per square meter between both kinds of fabric 1 and 4.

In Fig. 3, there is shown the knitted fabric with sizing 8 with up to 6 squares 9 per cm, both lengthwise and across, which imparts a symmetrical distribution to the fabric 8. This symmetry of the squares 9 allows one to make any kind of design, both accurate and elegant based on the present fabric 8.

In order to give this fabric 8 the stiffness and hardness required to significantly ease the task of making handicrafts therewith, the fabric is treated with a product, which preferably consists of a synthetic or natural sizing. The knitted fabric 8 takes in this product better than openwork fabrics 1 do. Apart from

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**FABRIC FOR MANUFACTURING ARTS AND CRAFTS AND/OR FOR
EMBROIDERING THEREON**

The present invention relates to a fabric for manufacturing craftsmanships and/or embroidering thereon, and more particularly to a knitted fabric with sizing, which is used to make handicrafts.

Generally, openwork fabrics, preferably with sizing, and three squares or "counts" per cm in length or width, for manufacturing handicraft products or for embroidering thereon are used at present in the arts and crafts industry.

The openwork fabric includes a weft and a warp which are interwoven just by the way they are arranged, without any kind of knot, binding, or the like. These fabrics are generally inexpensive to manufacture and they offer a relatively high productivity. In addition, standard machines are available to manufacture and size openwork fabrics.

In spite of the aforementioned advantages, however, openwork fabrics have a few drawbacks. These fabrics often lack the hardness and stiffness required to readily manufacture the desired handicrafts. These cloth can only be embroidered with certain kind of needlework. These fabrics are usually made at least 1,50 m wide, whereby in general they need to be cut to a much narrower size, which is required to manufacture handicrafts. Additionally, it is difficult for suppliers to store a fabric this wide in a variety of color for economic and storag room reasons.

On the other hand, some knitted fabrics are known in a textile industry which capture each pass by means for a knot made by crochet needles or the like.

Knitted fabrics are commonly used to make T-shirts, undergarments and garments in general, but they are not used to make handicrafts because they

have a very low efficiency rate and they are more expensive than openwork fabrics. Moreover, there are no standard machines available to apply sizing to knitted fabrics, since the aforementioned drawbacks precluded a demand for such machines and, therefore, for their development.

In view of the advantages and disadvantages of both of the above types of fabrics, attempts to improve fabrics for the arts and crafts business have been focused on the improvement of openwork fabrics with sizing, since it did not appear to be desirable to try the sizing on a knitted fabric.

One aim of embodiments of the present invention is to provide a fabric for the arts and crafts industry that is harder and stiffer and which allows for easy handling, and which can be embroidered using any type of needlepoint.

Another aim is to provide a fabric with the proper characteristics to allow salespeople to achieve better sales. These characteristics are a lesser width, in order to reduce the storage space required to store fabrics of different colors, a better quality and, at the same time a lower price per linear meter.

In the first preferred embodiment, the fabric made of 100 % cotton, 100 % polyester or mixtures of both polyester/cotton, is provided with up to 6 squares or "counts" per cm both lengthwise and across, and it is treated with a chemical product.

The number of squares (up to 6) per linear cm result in much more precise and refined end products, which is a very important consideration in the keepsake industry, the biggest user of this fabric.

As a chemical sizing for this fabric, in a preferred embodiment, a synthetic sizing is used, and in another preferred embodiment, there is used naturally occurring sizing.

the possibility of having a higher number of squares 9 per linear cm available, not only does the sizing confer the present knitted fabric 8 a greater specific gravity than the one known for openwork fabrics 1 with sizing, but higher stiffness and hardness as well. This better quality of the knitted fabric with sizing 8 allows for the manufacturing of arts and crafts with any kind of needlepoint and any type of embroidery, such as in particular, the one known as cross-stitching.

The knitted fabric with sizing 8 is made by means of a machine specifically develop to that end. In general, "crochet" type machines are designed by their manufactures for narrow items (very seldom are they over 10 cm wide). In the machine specifically designed for the manufacture of the present fabric 8, a special weaver has been developed on the machine, whereby fabric widths are achieved of 4 to 52 cm, preferably 31 cm in the first embodiment and usually less in the other embodiment. It was also necessary to reinforce looms and to modify a few gear connections for otherwise it would not be possible to use them. While the new machine is not a part of the embodiments of the present invention, it was necessary to develop it to achieve the present knitted fabric with sizing 8 with its novel structure.

As can be appreciated in Figure 3, the edges of the fabric 8 can be provided with festoons 11 that are useful to make it into an "embroidering trimming". These festoons are typical of all the embroidering trimmings available in the market (which are always made with openwork fabrics).

CLAIMS:

1. A fabric for use in arts and crafts and/or for embroidering thereon which comprises a knitted fabric made of 100% cotton, 100% polyester or a cotton/polyester mixture, which has a symmetric configuration of up to squares per linear cm both lengthwise and across, wherein said knitted fabric is treated with a chemical product, which provides the fabric structure with high rigidity and hardness and a relatively high specific gravity, said fabric being between 4 and 52 cm wide.
2. The fabric of claim 1, wherein said fabric is preferably 31 cm wide.
3. The fabric of claim 1 or 2, wherein said fabric is provided with festoons at its edges for the purpose of embroidering thereon, thus becoming "embroidering trimmings".
4. The fabric of claim 1, 2 or 3, wherein said chemical product is a synthetic sizing.
5. The fabric of claim 1, 2 or 3, wherein said chemical product is naturally occurring sizing.
6. The fabric as claimed in any preceding claim, wherein up to 6 squares per cm are provided.
7. A fabric substantially as hereinbefore described with reference to Figures 2 and 3 of the accompanying drawings.



Application No: GB 9811373.1
Claims searched: 1-7

Examiner: Alex Littlejohn
Date of search: 18 August 1998

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.P): D1G (GE); D1K

Int CI (Ed.6): D04B 21/00, 21/10, 21/12; D05C 17/00, 17/02

Other: Online: WPI; Japio

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	DE2507876A (Benker) see whole document	1-6
A	WPI Abstract Accession No. 86-083480[13] & ES8600434A (Adornos) 01/01/86 see abstract	.
A	WPI Abstract Accession No. 93-365835[46] & JP050272048A (Hiraoka) 19/10/93 see abstract	.
A	WPI Abstract Accession No. 92-256064[31] & JP040174748 A (Asahi) 22/06/92 see abstract	.
X	WPI Abstract Accession No. 91-358605[49] & JP030241074 A (Mitsubishi) 28/10/91 see abstract	1-4,6
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